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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,498	02/27/2002	Herbert Gunther	12007-0013	3236

7590

07/11/2003

Clark & Brody  
Suite 600  
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Washington, DC 20006

EXAMINER

PELHAM, JOSEPH MOORE

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 07/11/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/069,498

Applicant(s)

GUNTHER ET AL.

Examiner

Joseph M Pelham

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 47-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47-50, 52-55, 57-75 and 80-85 is/are rejected.
- 7) ☒ Claim(s) 51, 56 and 76-79 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: \_\_\_\_\_

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***Claim Rejections - 35 USC § 112***

1. Claims 52, 61-64, 69, and 85 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 52 and 85 recite a "compound which is crystalline a priori." "A priori" refers to a class of metaphysical judgments and does not appear pertinent to claim limitations in a utility patent application, and hence renders the claims indefinite, a priori.

Claim 61 recites "in one plane," whereas the heater is printed on a cylindrical surface, rendering the claim indefinite.

Claims 62 and 63 recite "the interlayer," which lacks antecedent basis.

"Or the like," recited in claim 64, renders the metes and bounds of the claim indefinite.

Claim 69 recites "the cover layer," which lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

2. Claims 47, 57-60, and 62-72 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5973296 to Juliano et al.

Referring to Figures 2a, 3, and 4a-6a, column 3, lines 22-41, column 6, line 37, through column 7, line 23, Juliano et al discloses a hot runner nozzle having a flow duct 60, ceramic dielectric layers 84, 'heating conductors' 86, and 'thermoelement' 88, being thick films applied "round-about" the nozzle and fired on, and an insulating "cover layer" 72. Any of the intermediate layers 84, 86 are "interlayers," and the wholes form a "layer compound," as recited in claims 59, 62, and 63. The heating conductors are inherently adjusted to power demand, because such is universally required in adapting a heater type to a particular application.

***Claim Rejections - 35 USC § 103***

3. Claims 53, 61, and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juliano et al.

While Juliano et al does not explicitly disclose a "paste" thick-film as such, but an "ink," nor heating conductor and thermoelement formed in the same layer, these cannot be regarded to patentably distinguish the claimed invention from the prior art of record. Thick-film paste for resistive heating structures appears often to refer to the same substance otherwise called "ink," and moreover is well known and its desirability determined strictly by the application. The baking order and baking temperature are also well within the competency of the artisan, and determined at least by the specific type and thickness of the film. Further, temperature sensing elements and heater elements in laminated heaters are commonly formed into a single layer, for the purpose of reducing the number of layers requiring baking and improving sensor response..

4. Claims 48, 49, 55, and 80-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juliano et al in view of U.S. Patent 6222166 to Lin et al.

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The claims differ from Juliano et al only in calling for a dielectric CTE of between 5.0 and  $7.0 \times 10^{-6}$  /k, and a difference between this value and the CTE of the metal substrate of at least  $5.0 \times 10^{-6}$  /k, and a "pretension" of the dielectric layer with respect to the substrate.

Referring to column 4, lines 33-45, and column 5, lines 10-20, Lin et al discloses a dielectric CTE of between  $6.0 \times 10^{-6}$  /k, and a difference between this value and the CTE of the metal substrate of up to  $10.0 \times 10^{-6}$  /k; the different CTE's would appear to inherently instill a "pretension" of the dielectric layer with respect to the substrate while cooling.

5. Claims 50-52, 54, and 83-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juliano et al in view of U.S. Patent 6118102 to Slegt.

The claims differ from Juliano et al in calling for a crystalline component of the insulating layer which crystallizes at above 900°C. Slegt discloses, at column 3, lines 40-57, a crystalline component of a heater insulating layer which crystallizes at about 900°C, as well as the availability of alternative compositions. It would have been obvious to adapt the insulating layer of Slegt to the heater of Juliano et al since Slegt discloses such to form a layer not adversely affected by subsequent firings of the heater layer. Further, the specific insulator composition, and hence crystallization temperature, is according to Slegt determined by the desired characteristics of the layer.

***Allowable Subject Matter***

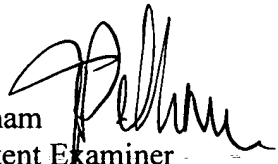
6. Claims 51, 56, and 76-79 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art cited on the PTO FORM 892, but not applied, is pertinent to the claimed invention. Applicant is urged to consider all cited prior art when replying to this action.

Any inquiry concerning communications from the Examiner should be directed to Joseph Pelham at (703) 308-1709; fax: 703-872-9302 (before final), 703-872-9303 (after final), or 703-872-9301 (customer service). Working hours: 7:00 AM - 3:30 PM, Monday - Friday.

Joseph Pelham  
Primary Patent Examiner  
Art Unit 3742



JMP  
July 9, 2003

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